

Notice of Allowability

Application No.

10/005,309

Examiner

Matthew C. Sams

Applicant(s)

KAWASHIMA, TAKAHIRO

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/21/2006.
2. ☒ The allowed claim(s) is/are 1 and 3-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Roger Wise on 3/14/2007.

Claim 6, please add "computer" A computer-readable medium having encoded thereon a computer program for executing...

Claim 9, please add "computer-readable medium having encoded thereon a computer" A computer-readable medium having encoded thereon a computer program according to claim 6...

Claim 10, please add "computer-readable medium having encoded thereon a computer" A computer-readable medium having encoded thereon a computer program according to claim 6...

Allowable Subject Matter

2. Claims 1 & 3-10 are allowed.

Examiner's Statement of Reasons for Allowance

3. The following is a statement of reasons for the indication of allowable subject matter:

Applicant's invention is drawn to a tone generator system, method and computer program encoded on a computer readable medium, when executed by a processor that responds to tone color changing instruction data, the channel number, the program number and the sounding instruction data, comprising:

- a first waveform storage for storing compressed waveform data that is stored in a high compression file format chosen from MP3, MPEG-2, Advanced Audio Coding and Adaptive Transform Acoustic Coding
- a second waveform storage for storing waveforms decoded from the first waveform storage and encoded as pulse code modulation
- a sequencer that receives the musical composition file, supplies the tone color changing instruction data derived from the musical composition file and the sounding instruction data derived from the musical composition data
- a decoder for reading out the compressed waveform data from the first waveform storage based on the program number, decoding the compressed waveform data into pulse code modulation format and storing the pulse code modulation data into the second waveform storage, accessible by a channel number
- a tone generator that is responsive to the sounding instruction data supplied from the sequencer, that reads out the appropriate waveform data in the second waveform storage in pulse code modulation format

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based on channel number and for generating the musical tones based on the waveform data

4. Applicant's independent claims 1, 5 & 6 each recite, *inter alia*, a tone generator that generates at least one musical tone in response to sounding instruction data relating to a channel by using a program number based on tone color changing instruction data designating a tone color of the channel which is stored in predetermined timing before the sounding instruction data, the tone color changing instruction data including a channel number indicative of the channel and the program number, and the sounding instruction data including the channel number, comprising a first waveform storage that stores compressed waveform data, each of the stored compressed waveform data being readable based on the program number, the compressed waveform data being compressed in a compression method for compressing waveform data in units of a frame comprised of a plurality of samples encoded with a format selected from the group consisting of MPEG-1 Audio Layer 3, MPEG-2, Advanced Audio Coding, and Adaptive Transform Acoustic Coding; a second waveform storage; a sequencer that sequentially receives and interprets a series of messages included in a musical composition file, supplies the tone color changing instructions data obtained by interpreting the series of messages, and then supplies the sounding instruction data obtained by interpreting the series of messages; a decoder responsive to the tone color changing instruction data supplied from said sequencer, for reading out from said first waveform storage the compressed waveform data based on the program number included in the supplied tone color changing instruction data, for decoding the readout

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compressed waveform data into waveform data in a pulse code modulation format, and for storing the decoded waveform data in the pulse code modulation format into said second waveform storage, each of the stored decoded waveform data being readable based on the channel number; and a tone generator section that is responsive to the sounding instruction data supplied from said sequencer, for reading out from said second waveform storage the waveform data in the pulse code modulation format, based on the channel number included in the supplied sounding instruction data, and for generating musical tones based on the readout waveform data in the pulse code modulation format. Applicant's independent claims disclose a particular combination that is neither suggested nor taught in the prior art.

5. The cited prior art (Okamoto US-5,559,298) differs from the claimed invention by not teaching a first waveform storage that stores compressed waveform data in a format selected from MP3, MPEG-2, AAC and ATRAC. Further, Hashimoto (US-6,180,861) differs from the claimed invention by reciting the waveform data is stored in the first waveform storage in not only a highly compressed waveform format (ATRAC), but also part of the file is not compressed at all (or slightly compressed) in order to minimize the delay between the request for a tone and when the tone is actually played. Applicant's invention saves costs in required memory by storing all of the waveform data in a first waveform storage in a highly compressed format.

6. Accordingly, Applicant's claims are allowed for these reasons and for the reasons recited by the Applicant in the Amendments filed on 4/14/2005, 12/15/2005, 12/28/2005, 7/12/2006 and 12/21/2006.

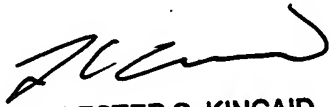
7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
3/14/2007


LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER